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ABSTRACT

The mothers of 135 hospitalized infants were interviewed regarding several social, familial, personal, and psychological conditions considered to be pertinent to the etiology of protein energy malnutrition in impoverished African urban areas. The information gathered was contrasted with similar data collected from the mothers of 296 adequately nourished infants. The results confirmed the lower socioeconomic status and general material disadvantages of families of malnourished infants. However, they also indicated that there were important differences between the two groups in terms of some specific features of child care, and the degree of support and independence available to the mothers. The mothers of the malnourished infants received less support from the fathers of the children as compared to the adequately nourished group, and were also less involved in child care activities. In addition, these mothers were not as positive in attitude about their infants as were the mothers of the adequately nourished children. (Author)

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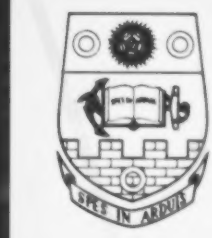

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INFANT MALNUTRITION IN HIGH DENSITY URBAN AREAS: SOME SOCIAL AND PSYCHOLOGICAL FACTORS

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INFANT MALNUTRITION IN HIGH DENSITY URBAN AREAS: SOME SOCIAL AND PSYCHOLOGICAL FACTORS

SUMMARY

The mothers of 135 hospitalised infants were interviewed regarding several social, familial, personal and psychological conditions considered to be pertinent to the aetiology of protein energy malnutrition in impoverished African urban areas. The information gathered was contrasted with similar data collected from the mothers of 296 adequately nourished infants. The results confirmed the lower socioeconomic status and general material disadvantages of families of malnourished infants. However, they also indicated that there were important differences between the two groups in terms of some specific features of child care, and the degree of support and independence available to the mothers. The mothers of the malnourished infants received less support from the fathers of the children as compared to the adequately nourished group, and were also less involved in child care activities. In addition, these mothers were not as positive in attitude about their infants as were the mothers of the adequately nourished children.

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INFANT MALNUTRITION IN HIGH DENSITY URBAN AREAS: SOME SOCIAL AND PSYCHOLOGICAL FACTORS

INTRODUCTION

The occurrence of severe illness in infancy brought about by protein energy malnutrition is primarily a reflection of poverty. However, more recently there has been a recognition that it is also a phenomenon which is embedded in a set of personal relationships between the child and those responsible for his or her care. These relationships are determined and shaped by the economic, political, cultural and social milieu occupied by the child and the family. Malnutrition is thereby a complex disorder, and its aetiological pathway is believed to be fashioned both by local conditions and the consequences which these conditions have for child development and care (Sheffer et al 1981, Grantham-McGregor 1984, Richardson 1984).

In general, the family of the malnourished child is assumed to play a major role in the development, maintenance and rehabilitation of the condition (Guthrie et al 1976). After all, it is the family, and the mother in particular, which mediates between existing physical and social conditions and the nutritional and nurturant experiences of the child. On the one hand, malnutrition has been found to be associated with disorganised and fragmented family life (Hepner & Maiden 1977, Thomas 1980, Bhattacharya 1981) and yet on the other hand, it has often been noted that some families manage to maintain their children in a reasonable nutritional state, even under conditions of extreme poverty and disadvantage (Margo et al 1978, Clarke

1980, Lopez et al 1984).

For these reasons, maternal deprivation (as a general term) has been postulated to be an important aetiological factor in malnutrition (Williams 1962, Cravioto & Delicardie 1972, Goodall 1979a, Thomas 1980). However, it would be misleading to terminate the analysis at the level of 'mothering' and to indulge in what Grantham-McGregor (1984) calls a myopic focus on families and 'parent blaming'. The material and interpersonal support available to a mother will affect her ability and capacity to provide adequate physical and emotional care for her child. In addition, the integrity of family life is likely to be closely related to wider socioeconomic pressures. For example, nearly all studies have found that the families of malnourished children are worse off than other families in some or other material and physical resources such as income, educational levels, standards of housing, overcrowding and so on (Grantham-McGregor 1984).

It would also be erroneous to neglect the contribution that the child's behaviour makes to the relationship with caretakers. Several studies have emphasised the apathy, passivity and social isolation of malnourished children (Graves 1976, Chavez & Martinez 1979), and the change in the complexity and responsivity of their behaviour which accompanies an improvement in nutrition (Chavez, Martinez & Yaschine 1975).

This study reports on specific features of family composition, child care and maternal attitudes amongst clinically malnourished

and adequately nourished black African children from an urban environment. It should be noted that some studies in South Africa (for example, Margo et al 1978) and elsewhere (Grantham-McGregor 1984), have reported a greater incidence of malnutrition in impoverisned urban areas as contrasted to rural areas, even those in which extreme poverty and hardship pertain. This calls attention to the problems of child care and nutrition which arise in disadvantaged urban communities.

METHOD

The mothers of 135 infants between 2 and 36 months of age were interviewed during the time of their child's admission to hospital for the treatment of protein calorie malnutrition. There were 69 males and 66 females in the sample. The average weight of the infants was 66,89% (s.d = 12,907) of the expected value; that is, of the 50th percentile of the NCHS standards for a particular child's age and sex (Hamill et al 1977). The children would thus be considered to be suffering from moderate to severe malnutrition (Gomez et al 1956). However, all the children were sufficiently ill to warrant an average length of stay in the hospital of 14 days, with a range between 2 and 82 days.

Where comparisons are made with a healthy sample, reference is to interviews conducted with the mothers of 296 infants (also aged between 2 and 36 months) as part of a study of the development of normal African children. None of these children had a history of hospitalisation for nutrition-related disorders and their

anthropometric measures were close to expected standards. Their average weight was 99,71% (s.d. = 16,43) and their average height was 95,96% (s.d. = 5,56) of expected NCHS values for age and sex. The children were therefore accepted as being adequately nourished.

Both groups of children came from families who were resident in the peri-urban black African townships surrounding the Pretoria area. The region is highly industrialised and offers many opportunities for skilled and semi-skilled employment. All the mothers were interviewed in the vernacular by a nursing sister according to a semi-structured format.

It should be noted that income was excluded from the assessment of socioeconomic status. There are many problems associated with obtaining accurate data of this kind, including mothers' ignorance about sources and amounts of household income, as well as the desire to inflate or disguise available wealth on the part of some informants (see also, Grantham-McGregor 1984).

RESULTS

Socioeconomic Status

Parental educational and occupational levels were used to estimate the overall socioeconomic status of the two groups. As can be seen in Table I, the mothers of malnourished children achieved significantly lower levels than the mothers of adequately nourished children on both measures. They had received less education and more of them were employed in manual

labour occupations. However only occupation, and not education, significantly distinguished the fathers of adequately nourished from those of malnourished infants. More fathers of malnourished infants were unemployed and fewer held white collar occupations.

TABLE I - PARENTAL EDUCATIONAL AND OCCUPATIONAL LEVELS OF MALNOURISHED AND ADEQUATELY NOURISHED CHILDREN

	MALNOURISHED INFANTS		ADEQUATELY NOURISHED INFANTS
MOTHER EDUCATION			
< 5 years schooling	41%		10%
5-10 years	58		71
>=10 years	1		19
		χ^2 = 36,35 ** df = 2	
FATHER EDUCATION			
< 5 years schooling	19%		9%
5-10 years	55		69
>=10 years	26		21
		χ^2 = 5,68 df = 2	
MOTHER OCCUPATION			
White collar	0%		8%
Skilled/Semi-	1		1
Manual labour	21		9
Unemployed	78		82
		χ^2 = 12,9 ** df = 3	
FATHER OCCUPATION			
White collar	4		38%
Skilled/Semi-	25		21
Manual labour	53		36
Unemployed	18		5
		χ^2 = 37,98 ** df = 3	

** $p < 0,01$

In addition, significantly more families of adequately nourished infants (50%) owned a television set, as one indicator of disposable income, when compared to the families of malnourished infants (24%, χ^2 = 14,64, df =1, $p < 0,01$).

Greater paternal unemployment has been associated with malnutrition in other studies (Thomas 1980), as has generally poorer educational levels of both parents (Richardson 1974, Richter-Strydom et al 1985). Some South African studies of malnutrition in rural areas have failed to find any relationship between maternal educational levels and the nutritional status of children (Margo et al 1978, Thomas 1980). However, it is not likely that maternal educational levels are directly related to child nutrition and care, except by way of their influence upon the socioeconomic standard of the child's environment. For example, in the present study no relationship was found between maternal education and several measures of knowledge about child care and nutrition, including the expected age of appearance of major milestones, the timing and nature of the introduction of solid foods, the common causes of diarrhoea, and so on.

The present results clearly indicate, however, that generally low socioeconomic standards form the background to the occurrence of clinical malnutrition in urban areas.

Family Composition

There were no differences between the two groups in terms of household density or the number of children born to a particular mother. The average household size of the malnourished group was 7,31 (s.d = 2,96, range = 2-17) and of the adequately nourished group it was 6,87 (s.d = 2,58, range = 3-21; t = 1,48, df = 417). The average number of children per family was 2,64 (s.d = 1,88) for the malnourished group and 2,23 (s.d =1,51; t = 2,19, df =

408) for the adequately nourished group.

The size of families reported here is similar to that found by Margo et al (1976a & b, 1978) in both rural and peri-urban areas in South Africa, and the general result concurs with several other studies which have also failed to find a relationship between family size and malnutrition (Clarke 1980, Alvarez et al 1982).

Family Relationships

Illegitimacy and high rates of parental separation have previously been found to be associated with malnutrition (Goodall 1979b, Clarke 1980, Thomas 1980). Similarly in the present study, significantly more parents of adequately nourished infants were found to be married, either by customary union rites, or by civil or religious authority (61% as compared to 37%, $\chi^2 = 9,79$, $df = 1$, $p < 0,01$).

However, there was no significant difference in the number of fathers in the two groups who were living with the mother, whether formally married in some way or not. Fifty-five percent of the fathers of the adequately nourished infants were present in the home as compared to 45% of the fathers of the malnourished infants ($\chi^2 = 2,88$, $df = 1$). It is not clear how stable households are when the union between mother and father is not recognised either by traditional or legal authority, and how child care may be affected by personal relationships of this kind.

As had been found by Clarke (1980) and Thomas (1980), significantly more of the absent fathers of malnourished infants in the present study had deserted their families (56%) as compared to the absent fathers of the adequately nourished group (13%, $\chi^2 = 40,91$, df = 1, $p < 0,01$). Migrant labour was not a common reason for absent fathers in either group (approximately 4%). The most common reason for father absence in the adequately nourished group was a delay of marriage awaiting the collection of an acceptable bride price (71% in the adequately nourished group as opposed to 32% in the malnourished group, $\chi^2 = 30,45$, df = 1, $p < 0,01$). Although the father in these cases was not present, his absence was socially acceptable and did not reflect negatively upon the mother or her child; also, he was likely to be contributing maintenance for the child. As a consequence of the mothers of the malnourished infants being more likely to have been deserted by the man who fathered their child, the women would have little prospect of receiving maintenance. They would be forced, therefore, to become financially dependent upon their family of origin if they were unemployed.

There was, however, no significant difference between the two groups in terms of the number of children who were primary dependents on their parents as compared to children who were secondary or tertiary dependents upon members of their mothers' families. Fifty-six percent of the malnourished and 63% of the adequately nourished infants were directly dependent upon one or both of their parents' incomes for their subsistence ($\chi^2 = 1,19$,

df = 1, p = n/s). However, significantly more mothers of malnourished infants (24%) were dependents on family members other than the grandparents of the child, that is, the mothers' own parents, as compared to mothers similarly dependent among the adequately nourished group (9%, $\chi^2 = 8,17$, df = 1, $p < 0,01$). Because of the nature of their dependency, it is likely that these mothers would have very little control over what was purchased or given to them for the nutrition and care of their infants.

Child Care

There was no difference in the number of children in the two groups who were primarily in the care of their mothers (78% of malnourished infants, and 82% of adequately nourished infants). A similar finding regarding the preponderance of mothers as caretakers in both groups has been reported by Clarke (1980), Thomas (1980) and Lazarus & Bhana (1985). Therefore, the mere physical presence of the mother as the primary caretaker seems to be relatively unimportant to the prevention or development of a condition of malnutrition.

However, several differences were found between the two groups of mothers regarding specific features of child care, and these are summarised in Table II, below:

TABLE II - DIFFERENCES IN SOME FEATURES OF CHILD CARE BETWEEN THE MOTHERS OF MALNOURISHED AND ADEQUATELY NOURISHED INFANTS

	MALNOURISHED GROUP		ADEQUATELY NOURISHED GROUP
Spend > 3 hours with child per day	18%	χ^2 = 13,73 **	41%
Actively play with child on daily basis	65%	χ^2 = 18,07 **	90%
Read to child daily	4%	χ^2 = 32,42 **	24%
Take child out of house daily	50%	χ^2 = 27,16 **	78%
Child often has meal with the family	3%	χ^2 = 9,92 **	15%
Mother actively tries to teach child	73%	χ^2 = 14,73 **	93%
Console fretful child with food/drink	27%	χ^2 = 15,25 **	55%
Describe child as having a pleasant temperament	27%	χ^2 = 58,81 **	81%

** $p < 0,01$

These results indicate that the mothers of adequately nourished children spend more time with their infants, they appear to be more actively involved in providing the child with stimulating experiences, and the children seem to be included in more daily

routines than occurs amongst the malnourished group. Mothers of adequately nourished infants were also more likely to express a positive attitude about their child and to express nurturance and care in the form of feeding than was true of the mothers of malnourished infants.

Male Caretaking

Fewer malnourished infants received any male caretaking, and those who did receive care from a male figure were less likely to receive it on a daily basis as compared to the experience of male caretaking by adequately nourished infants. These results are illustrated in Table III below.

TABLE III - MALE CARETAKING OF MALNOURISHED AND ADEQUATELY NOURISHED INFANTS

	MALNOURISHED INFANTS		ADEQUATELY NOURISHED INFANTS
Receive some male caretaking	57%	$\chi^2 = 23,56$ **	88%
Daily male caretaking	27%	$\chi^2 = 30,16$ **	66%

** $p < 0,01$

There was no difference between the two groups in terms of the number of fathers who were present in the home, whether married to the mother by some procedure or not. Nonetheless, fewer of the fathers of the malnourished infants participated in their

care than was true of the fathers of the adequately nourished children.

CONCLUSIONS

Mothers of malnourished infants did not experience their infants as pleasant children. While this finding cannot be interpreted appropriately without objective data regarding the infants' behaviour, it does indicate that the relationship between mother and child is not likely to be pleasurable and rewarding, at least for the mother. It was also found that these mothers were less likely to console or nurture their infants with food, as was the case with the mothers of adequately nourished infants, and they were less actively involved in the daily care of their infants. Taken together, the results point to a relatively unsatisfying mother-child relationship, less direct interaction between mother and child, and fewer positive efforts by the mother to direct the course of her infant's development.

However, the mothers of the malnourished infants faced many more problems at the level of familial and interpersonal relationships than did the mothers of adequately nourished children. They were less likely to experience the social support and stability of a man and his family based on a recognised marriage. They were more likely to have been abandoned by the men who fathered their child, and more likely to have been thrown into dependency upon family members other than their own parents. There was also less future prospect of a marriage to the child's father than was the case for the mothers of the adequately nourished children. In

addition, even when the father of the child was present in the home, he was less likely to show direct interest in the child and less likely to interact with the child on a daily basis.

Mothers of malnourished infants were also found to have a lower socioeconomic status than the mothers of the adequately nourished infants. Fewer physical and material resources and greater hardship and disadvantage thus compound the difficulties she must bear. These findings give support to speculations such as those of Alvarez et al (1982) who argued that: "It may be that mothers who feel lack of understanding, affection and communication on the part of their partner, and who furthermore perceive their economic problems as pressing and insoluble are more prone to be unable to establish an adequate emotional relationship with their offspring" (p. 1368). Similarly, Hepner & Maiden (1977) hypothesised that: "A mother may have the best intentions and desire to perform adequately, but her priority for this effort may be deflected by inundating life circumstances beyond her control. Thus the pathology of social and economic inadequacy may disrupt the maternal-child relationship required for successful child nurture" (p. 221).

Malnutrition in impoverished and disorganised urban communities is likely to be the outcome of the synergistic influence of factors at the economic, social, and interpersonal levels. Identifying inadequacies in the mother-child relationship does not minimise the part played by the effect of uncertain and disappointing social and interpersonal relationships upon her

ability to be a nurturant mother, and the part played by the effects of demoralising economic deprivation. The purpose in focusing upon the mother-child relationship is to bring to the fore the importance of including in rehabilitation programs some deliberate effort to assist mothers in ways which will enhance their ability and capacity to give succour to their infants.

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